

CLAIMS

1. A bumper (2) for a vehicle, including a beam (4) that has at least one synthetic material, characterised in that it includes an insert (6) to accommodate a towing ring (40).

2. A bumper according to the preceding claim, characterised in that the insert (6) is fixed directly onto the beam (4).

3. A bumper according to any one of the preceding claims, characterised in that the insert (6) is accommodated in a housing (16) made of synthetic material.

4. A bumper according to the preceding claim, characterised in that the synthetic material is in contact with the insert (6) over the whole of the housing (16).

5. A bumper according to any one of claims 3 to 4, characterised in that the housing (16) is in the form of a sleeve.

6. A bumper according to any one of the preceding claims, characterised in that the insert (6) has a small collar (32).

7. A bumper according to any one of the preceding claims, characterised in that the insert (6) has one end crimped (34).

8. A bumper according to any one of the preceding claims, characterised in that the insert (6) includes a metal.

9. A bumper according to any one of the preceding claims, characterised in that the beam (4) is composed of at least one synthetic material.

5 10. A bumper according to any one of the preceding claims, characterised in that the beam (4) includes reinforcing fibres.

10 11. A bumper according to any one of the preceding claims, characterised in that the insert (6) is secured to an absorber (10) on the beam (4).

15 12. A bumper according to any one of claims 1 to 10, characterised in that the insert (6) is secured to a bar (5) on the beam (4).

20 13. A process for the manufacture of a bumper (2) for a vehicle, characterised in that an insert (6) is placed to accommodate a towing ring (40) in a bumper that includes a beam (4) that has at least one synthetic material.

25 14. A process according to the preceding claim, characterised in that the insert (6) is fixed directly to the beam (4).

15. A process according to any one of claims 13 or 14, characterised in that the (or each) material intended to form the beam is heated, and is then placed in a mould (60).

30 16. A process according to the preceding claim, characterised in that the (or each) material is compressed when the mould is closed (60).

35 17. A process according to either of claims 15 to 16, characterised in that a space-forming part (62) is moved within the mould to form a housing (16).

18. A process according to the preceding claim, characterised in that the movement takes place after closure of the mould.

5 19. A process according to either of claims 17 to 18, characterised in that the insert (6) is positioned in the housing (16).

10 20. A process according to any one of claims 17 to 19, characterised in that the insert (6) is positioned in the housing (16) while the beam (4) is at a temperature greater than ambient temperature.

15 21. A process according to any one of claims 13 to 20, characterised in that the insert is crimped (6) onto the beam (4).

20 22. A mould for the manufacture of a beam (4) for vehicle bumpers (2), including a chassis (67), characterised in that it includes a space-forming part (62) mounted to be mobile in a cavity (61) of the mould in relation to the chassis.